GHIBLI 16/
GHIBLI 16FX

User's Manual

16-CHANNEL MIXING CONSOLE/
WITH DIGITAL EFFECTS

ALTO®

www.altoproaudio.com

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— English —

SAFETY RELATED SYMBOLS

This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

⏚ Protective Ground Terminal

~ AC mains (Alternating Current)

Hazardous Live Terminal

ON: Denotes the product is turned on.

OFF: Denotes the product is turned off.

WARNING

Describes precautions that should be observed to prevent the possibility of death or injury to the user.

CAUTION

Describes precautions that should be observed to prevent damage to the product.

WARNING

• Power Supply

Ensure that the mains source voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user.

Unplug the product before electrical storms occur and when unused for long periods of time to reduce the risk of electric shock or fire.

• External Connection

Always use proper ready-made insulated mains cabling (power cord). Failure to do so could result in shock/death or fire. If in doubt, seek advice from a registered electrician.

• Do Not Remove Any Covers

Within the product are areas where high voltages may present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed.

Covers should be removed by qualified service personnel only.

No user serviceable parts inside.

• Fuse

To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

• Protective Ground

Before turning the product ON, make sure that it is connected to Ground. This is to prevent the risk of electric shock.

Never cut internal or external Ground wires. Likewise, never remove Ground wiring from the Protective Ground Terminal.

• Operating Conditions

Always install in accordance with the manufacturer's instructions.

To avoid the risk of electric shock and damage, do not subject this product to any liquid/rain or moisture. Do not use this product when in close proximity to water.

Do not install this product near any direct heat source.

Do not block areas of ventilation. Failure to do so could result in fire.

Keep product away from naked flames.

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions
Follow all instructions
Keep these instructions. Do not discard.
Heed all warnings.
Only use attachments/accessories specified by the manufacturer.

• Power Cord and Plug

Do not tamper with the power cord or plug. These are designed for your safety.
Do not remove Ground connections!
If the plug does not fit your AC outlet seek advice from a qualified electrician.
Protect the power cord and plug from any physical stress to avoid risk of electric shock.
Do not place heavy objects on the power cord. This could cause electric shock or fire.

• Cleaning

When required, either blow off dust from the product or use a dry cloth.
Do not use any solvents such as Benzol or Alcohol.
For safety, keep product clean and free from dust.

• Servicing

Refer all servicing to qualified service personnel only.
Do not perform any servicing other than those instructions contained within the User's Manual.

TABLE OF CONTENTS

1. INTRODUCTION.....3
2. FEATURES.....3
3. READY TO START.....3
4. CONTROL ELEMENTS.....4
5. INSTALLATION AND CONNECTION.....10
6. PRESET LIST.....13
7. SYSTEM BLOCK DIAGRAMS.....14
8. TECHNICAL SPECIFICATION.....16
9. WARRANTY.....17

1. INTRODUCTION

Thank you very much for expressing your confidence in ▲LTO products by purchasing GHIBLI 16(FX) 16-Channel Mixing Console. You will get the smooth, accurate more natural and open sound from this apparatus, and it is really ideal for small gigs, recording and fixed PA installations. The GHIBLI 16(FX) is packed with features that can not be found in other con soles of its size: 4 mono (these are provided with ultra low noise microphone preamplifiers and Phantom Power at +18 Volt) and 4 stereo input channels, and each mono channel with 3 bands EQ + Mid Frequency sweep and MUTE function; highly accurate 4-segment bar graph meters; built-in high efficiency digital effects processor for GHIBLI 16FX only;

Your GHIBLI 16(FX) is very easy to operate but we advise you to go through each section of this manual carefully. In this way you will get the best out of your GHIBLI 16(FX).

2. FEATURES

The GHIBLI 16(FX) 16-Channel Mixing Console is designed for professional application. It provides the following features:

- Mono channels with 3 bands EQ + Mid Frequency sweep and MUTE function.
- TUBE SOUND COMPRESSOR on the MIC1-4 channels + De-esser function.
- Insert function for all mono channels.
- Surround processor with center and surround out + Stereo Bass Enhancer.
- Extremely high headroom offering more dynamic range
- Balanced ultra low noise microphone inputs with "HIGH END PREAMP"
- Suitable for live, studio and home applications
- 2 AUX Control per mono channel for internal/external effects and monitoring
- High-quality, low tolerance components for highest results.
- Rugged construction ensures long life and durability
- External power supply design for professional applications.

3. READY TO START

3.1 There is a small black box provided with your GHIBLI 16(FX). This is the specific 18V AC input adapter. Connect the proper terminal into your GHIBLI 16(FX) and the adapter into an AC socket.

3.2 Be sure that the main power switch is turned off before connecting the mixer to the AC socket. Also, You should make sure that all input and output controls are turned down before connecting the AC adapter. This will avoid damage to your speakers and avoid excessive noise.

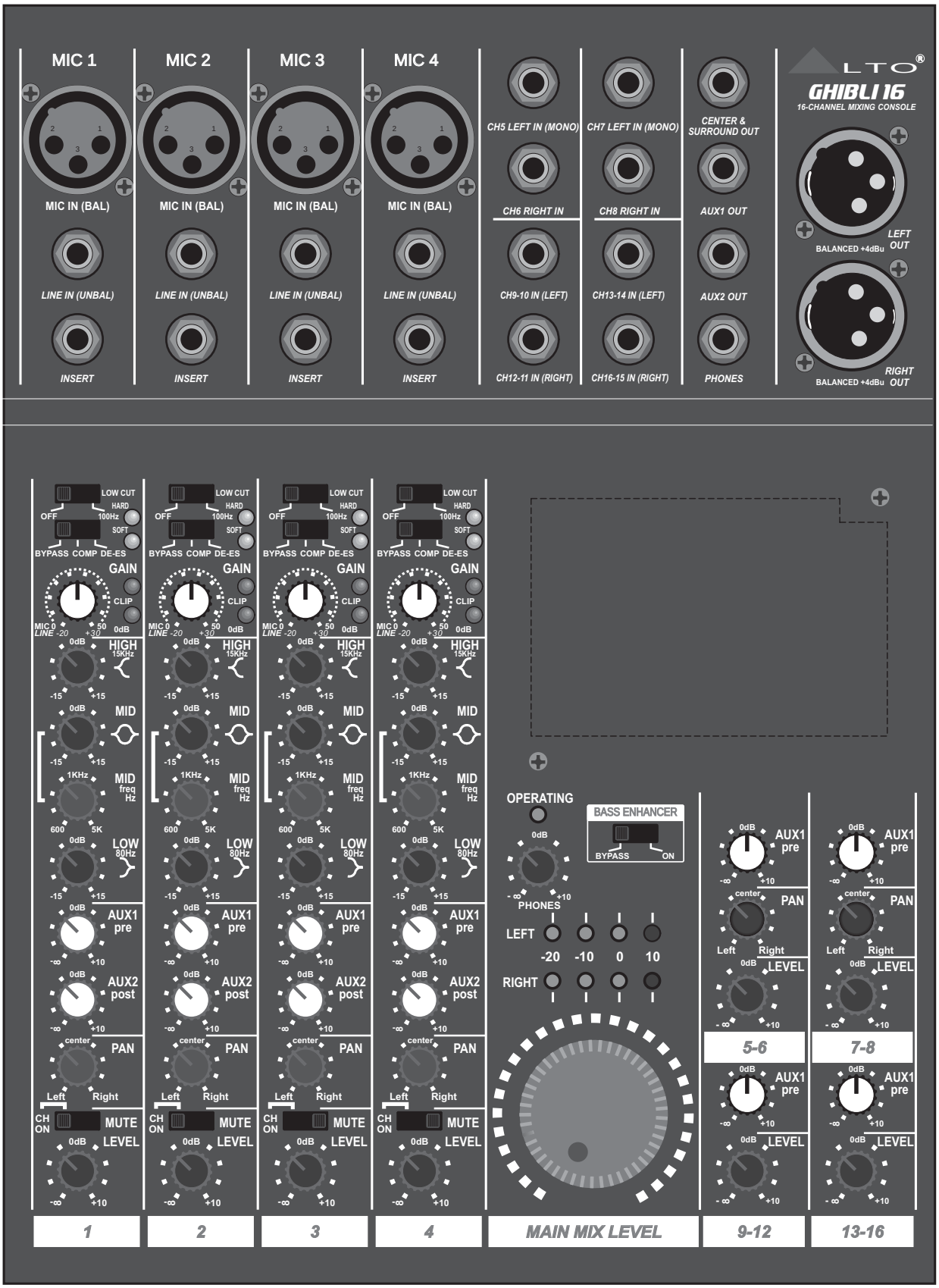
3.3 You shall turn on the mixer BEFORE the power amplifier and turn the mixer off AFTER the power amplifier once you have finished your working session.

3.4 Before disconnecting the GHIBLI 16(FX) always turn off the power switch.

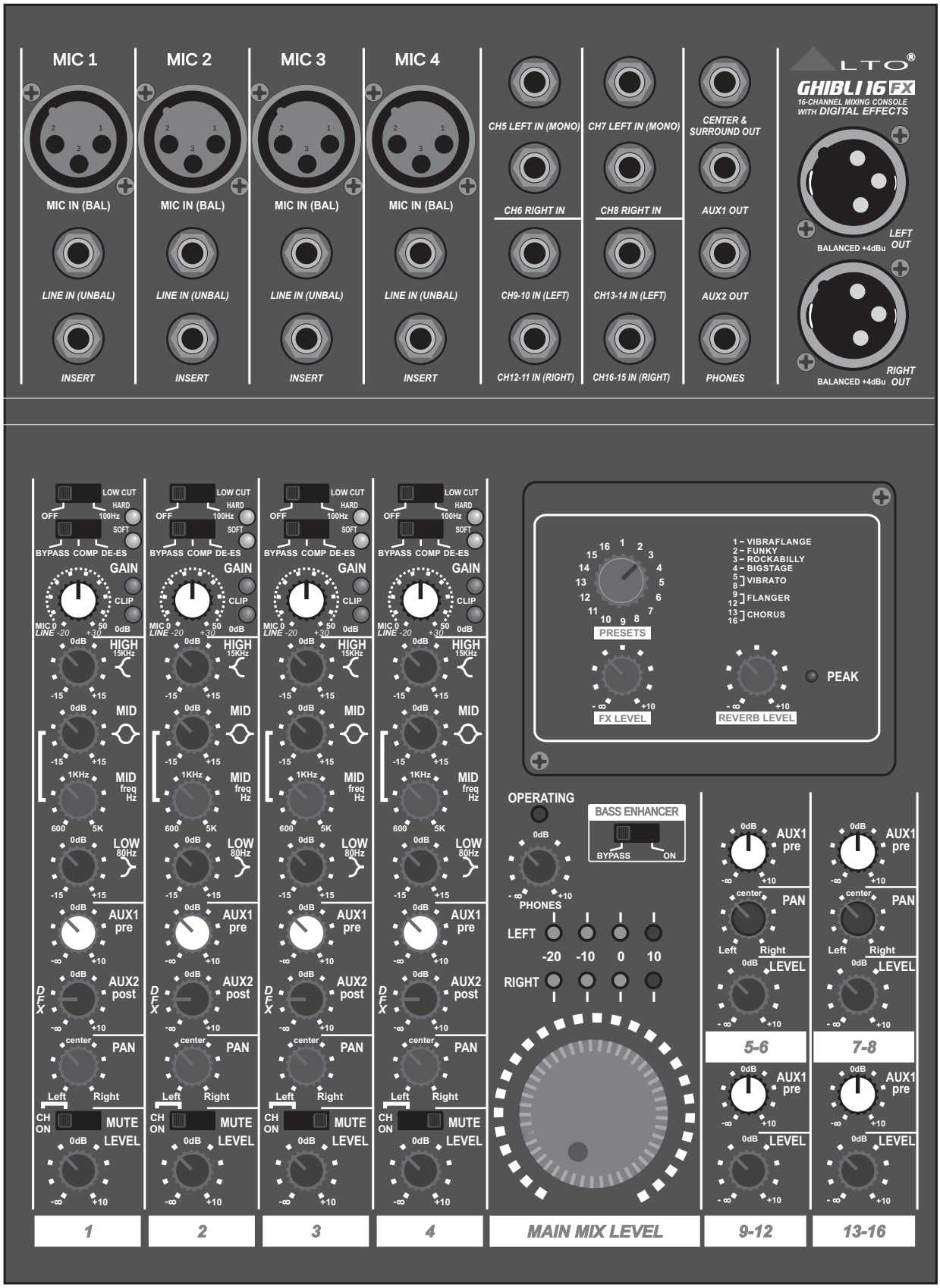
3.5 Do not use solvents to clean your GHIBLI 16(FX). A dry and clean cloth will be OK.

4. CONTROL ELEMENTS

GHIBLI 16



GHIBLI 16FX


MIC 1
MIC 2
MIC 3
MIC 4
MIC IN (BAL)
LINE IN (UNBAL)
INSERT
CH5 LEFT IN (MONO)
CH6 RIGHT IN
CH9-10 IN (LEFT)
CH12-11 IN (RIGHT)
CH7 LEFT IN (MONO)
CH8 RIGHT IN
CH13-14 IN (LEFT)
CH16-15 IN (RIGHT)
CENTER & SURROUND OUT
AUX1 OUT
AUX2 OUT
PHONES
LTO
GHIBLI 16 FX
16-CHANNEL MIXING CONSOLE WITH DIGITAL EFFECTS
LEFT OUT
BALANCED +4dBu
RIGHT OUT
BALANCED +4dBu
LOW CUT
OFF
HARD
SOFT
100Hz
BYPASS COMP DE-ES
GAIN
CLIP
HIGH
MID
LOW
AUX1 pre
AUX2 post
PAN
MUTE
LEVEL
1KHz
15KHz
80Hz
5K
600
1 – VIBRAFLANGE
2 – FUNKY
3 – ROCKABILLY
4 – BIGSTAGE
VIBRATO
FLANGER
CHORUS
PRESETS
FX LEVEL
REVERB LEVEL
PEAK
OPERATING
BASS ENHANCER
BYPASS
ON
PHONES
LEFT
RIGHT
-20
-10
0
10
5-6
7-8
1
2
3
4
MAIN MIX LEVEL
9-12
13-16

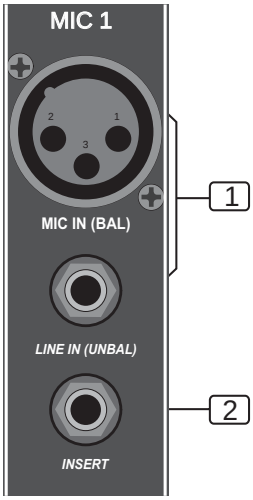
4.1 THE MIC/LINE INPUT [1]

These are Channel 1 through Channel 4. You can connect balanced, low impedance microphones or a low level signal to the XLR socket. On the 1/4" Line jack you can connect either a microphone or a line level instrument .

Note: You shall never connect an unbalanced microphone to the XLR socket if you do not want to damage both the microphone and the mixer. Also, it is not possible to simultaneously use both the MIC&LINE inputs on the same channel, use only one of them for the appropriate source on each channel.

- PHANTOM POWER +18 Volts

It is available only on the XLR input sockets. Please make sure the power switch is turned off before connecting a microphone to the XLR input.

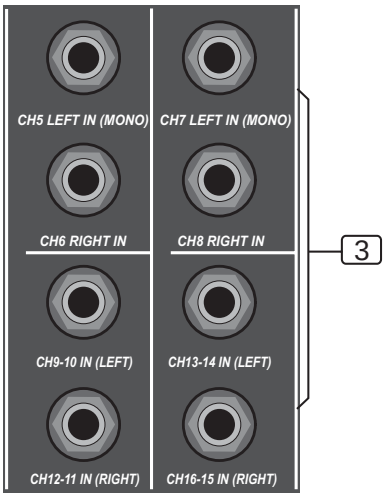


4.2 MONO CHANNEL INSERT [2]

Insert points are provided for mono MIC channels, which can allow you to patch external signal processing devices into signal path. When you insert a TRS jack in the insert socket, the signal will be taken out after the channel compressor, sent to an external processor, and returned into the channel strip immediately before the EQ section. Of course, the jacks used must be stereo (Tip Send/Ring Return).

4.3 STEREO INPUT (CH5~CH16) [3]

Each stereo channel comes with two unbalanced line level inputs on 1/4" TRS jacks, which are used to connect left and right input signals. Use the LEFT input when connect a mono input signal to the STEREO INPUT. The last two stereo channels feature an original and exclusive double stereo input for each stereo channel. This feature allows you to connect two stereo sources at the same time for each stereo channel, enlarging the real number of signals you can manage at the same time.



4.4 LOW CUT [4]

By pushing this switch you will activate a 100Hz low frequency filter that provides a precise cut for frequencies under 100Hz. You can use this facility to reduce the hum noise infected by the mains power supply, or the stage rumble while using a microphone.

4.5 THE TUBE SOUND COMPRESSOR SWITCH [5]

The TSC switch (on the first 4 channels) activates the TUBE SOUND COMPRESSOR and let you choose between Compressor and De-esser functions. The two yellow LEDs show the amount of compression applied to the input signal. Two algorithms are provided, one for soft compression with a threshold level of 0dB, and one for hard limiting with a threshold level of around +10dB. This dynamic processor works on the very entry stage of the channel and it can avoid also the channel clipping, maintain the best signal-to-noise ratio. The compression algorithm applied to the sound is shown by two yellow LEDs.

4.6 CLIP LED/0dB LED [6]

The green LED illuminates when the signal overpasses the 0dB level, the red CLIP LED illuminates when the channel is going into overload. If the CLIP LED becomes permanently on, reduce the amount of gain. To have best signal-to-noise ratio set the gain so that the green 0dB LED becomes lighted.

4.7 INPUT LEVEL SETTING [7]

This control is provided with 2 different indication rings: one is for the MIC input and the other for the LINE input. When you use a MIC input you shall read the INSIDE ring (0~50dB); when you use a LINE input you shall read the OUTSIDE ring (-20~+30dB).

4.8 The 3 BANDS EQUALISER

- HI [8]

This is the treble control. You can use it to get rid of high frequency noises or to boost the sound of cymbals or the high harmonics of the human voice. The gain range goes from -15dB to +15dB with a center frequency of 15kHz.

- MID [9]

This is the midrange control. It can affect most fundamental frequencies of all musical instruments and human voice. An attentive use of this control will give you a very wide panorama of sound effects. The gain range goes from -15dB to +15dB.

- MID FREQUENCY SWEEP [10]

This control allow to choose the ceuter frequency of the mid band in a range going from 600Hz to 5KHz.

- LOW [11]

This is the bass control. It is used to boost male voice, kickdrum or bass guitar. Your system will sound much bigger than what it is. The gain range goes from -15dB to +15dB and the center frequency is 80Hz.

4.9 AUX 1& 2 [12]

This control is used to adjust the level of respective channel signal sent to the Auxiliary Bus. The configuration of AUX1 is pre-fader so the signal sent to the AUX Bus 1 will not be affected by the LEVEL control of that particular channel. The AUX2 is post-fader so the signal sent to AUX Bus 2 will be affected by the channel LEVEL control. In this GHIBLI 16FX, The AUX2 signal also feeds the internal digital effect processor.

4.10 PAN [13]

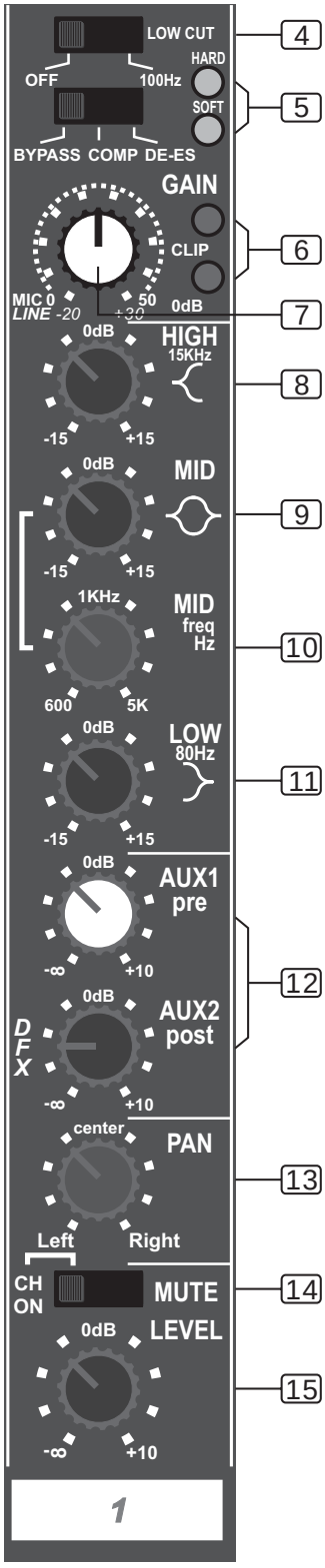
This is the PANORAMA control. You can adjust the stereo image of the signal via this control. Keep this control in center position and your signal will be positioned in the middle of stage. Turn this control fully counter-clockwise and the signal will be present only on the left speaker and vice-versa. Of course a wide number of intermediate positions are available.

4.11 MUTE SWITCH [14]

Mono channels are provided with a MUTE switch that allows to switch on and off the channel signal, both on Left and Right buses and on AUX ones.

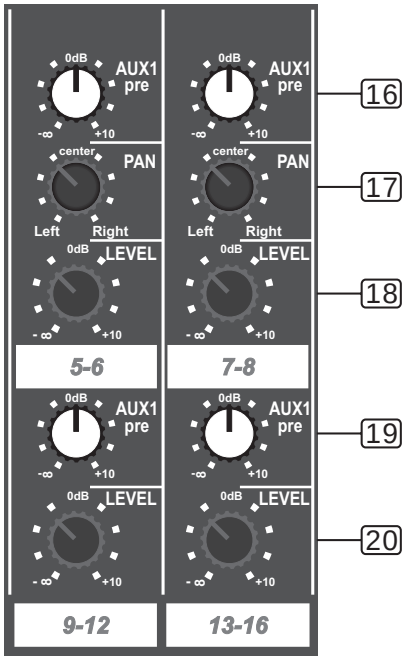
4.12 LEVEL [15]

This control will adjust the overall level of this channel and set the amount of signal sent to the Main output, and to the Surround and Center outputs.



4.13 AUX1 pre 16

The AUX1 control allows to manage the signals coming from the stereo inputs and send them to AUX1 output in order to feed the monitors. The level of this signal is not affected by the channel LEVEL control.



4.14 PAN 17

This control allows to choose the position of a mono input signal into the stereo field. It allows also to modify the amount of left and right level for a stereo input signal (balance function).

4.15 LEVEL 18

It determines the amount of the input signal on the main mix (LEFT and RIGHT output) and on the Surround and Center outputs.

4.16 AUX1 pre 19

The AUX1 control allows to manage the signals coming from the stereo inputs and send them to AUX1 output in order to feed the monitors. The level of this signal is not affected by the channel LEVEL control.

4.17 LEVEL 20

It is channel's LEVEL control and it determines the amount of the input signals on the main mix (LEFT and RIGHT output) and on the Surround and Center outputs.

4.18 24 BIT DIGITAL EFFECTS (For GHIBLI 16FX Model only)

- PRESETS 21

Adjust this knob to select the right effect you wish to perform. There are total 16 options for you: Vibraflange, Funky, Rockabilly, Bigstage, Vibrato, Flanger and Chorus etc.

- FX LEVEL CONTROL 22

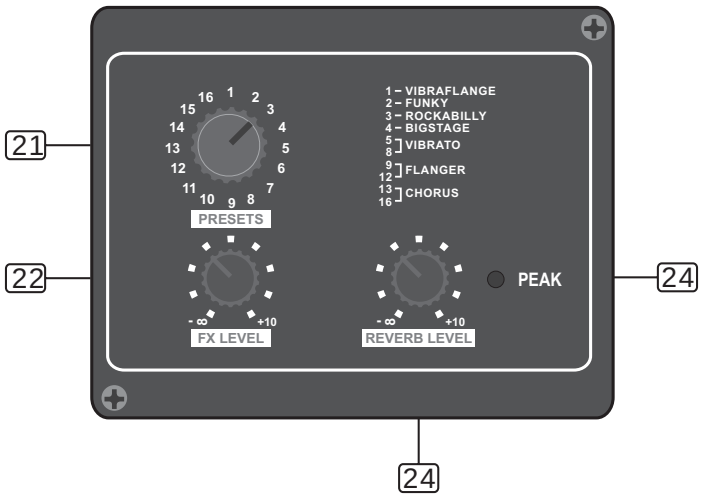
This control is used to adjust the output level of FX signal, which can be varied from **-∞** to 10dB.

- REVERB LEVEL CONTROL 23

This control is used to adjust the output level of REVERB signal, which can be varied form **-∞** to 10dB.

- PEAK LED 24

This LED will illuminate when the internal effect signal is too high and possibly distorted.
In case of the digital effect module being muted, this LED also lights up.



4.19 OPERATING LED 25

The operating LED, when is on, shows that the main power supply is present and the mixer is operating.

4.20 PHONES 26

This control sets the amount of signal sent to the PHONES output.

4.21 VU METER 27

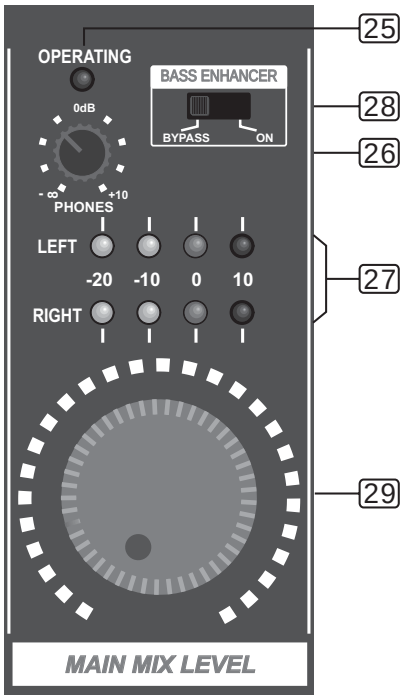
It is the output VU meter of the mixer, it shows both the left and right output signal level.

4.22 BASS ENHANCER 28

This is the BASS ENHANCER processor switch. Inserting this processor it is possible to increase and optimize the general performance at low frequency of the mixer.

4.23 MAIN MIX LEVEL 29

This control sets the amount of signal sent to the MAIN MIX LEFT and RIGHT outputs.



4.24 CENTER & SURROUND OUT 30

This is Center and Surround output of the mixer. You can pick up their signals using an insert cable.

4.25 AUX1 OUT 31

This is the AUX1 output, it is useful to connect active monitors to the mixer.

4.26 AUX2 OUT 32

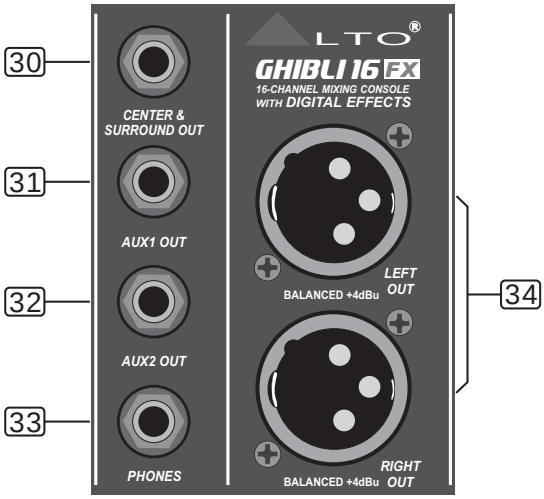
This is the AUX2 output, using its signal it is possible to feed an external effect processors, wiring the effect return to one of the stereo channels of the mixer.

4.27 PHONES 33

This socket will be used to send the signal to a pair of headphones as well as active monitors.

4.28 MAIN MIX OUTPUT 34

This stereo output is controlled by the MAIN MIX LEVEL on the front panel and will send the audio signal to an external amplifier. It is electronically balanced and it has got a professional standard level of +4dBu. You can use both for stereo and for surround system wiring.



4.29 REAR PANEL

- POWER SUPPLY 35

Used to connect the supplied 18V AC adapter, supplied by ▲LTO company only.

- POWER ON/OFF SWITCH 36

This switch is used to turn the main power ON and OFF.

5. INSTALLATION AND CONNECTION

Ok, you have got to this point and you are now in the position to successfully operate your GHIBLI 16(FX). However, we advise you to read carefully the following section to be the real master of your own mixer. Not paying enough attention to the input signal level, to the routing of the signal and the assignment of the signal will result in unwanted distortion, a corrupted signal or no sound at all. So you should follow these procedures for every single channel:

1). Before connecting mics or instruments, make sure that the power of all your systems components including the mixer is turned off. Also, make sure that all input and output controls of your mixer are turned down. This will avoid damage to your speakers and avoid excessive noise.

2). Properly connect all external devices such as microphone, power amplifier, speakers etc.

3). Connect the 18V AC adapter to the mixer and main power.

4). Now, turn on the power of any perpheral devices, and then power up the mixer.
Note: the power amplifier or powered monitors shall be turned on after the mixer and turned off before the mixer.

5). Set the output level of your GHIBLI 16(FX) or the connected power amplifier at no more than 75%.

6). Now, set the PHONE level at no more than 50%.

7). Set HI, MID and LOW EQ controls on the middle position

8). Set panoramic controls on the middle position.

9). While speaking into the mic (or playing the instrument), adjust the channel level control so to maintain a good headroom and ideal dynamic range.

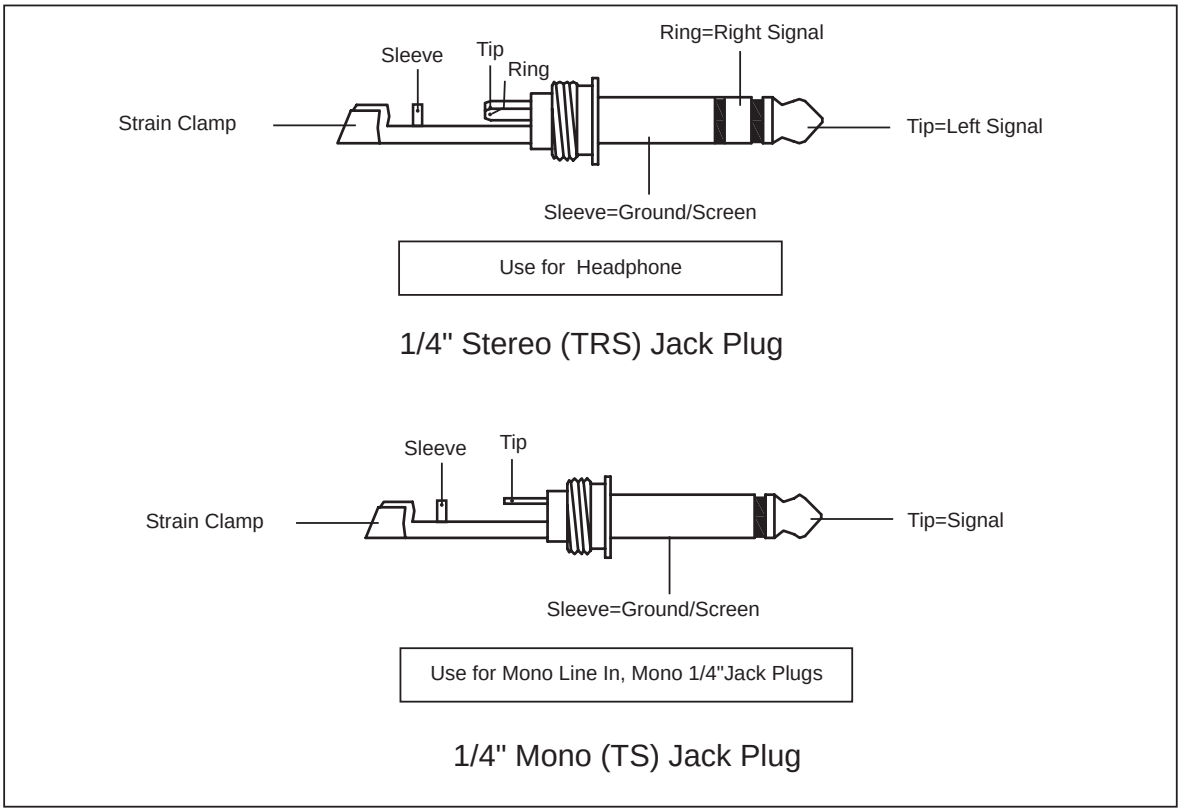
10). You can shape the tone of each channel by adjusting the equalizer controls as desired.

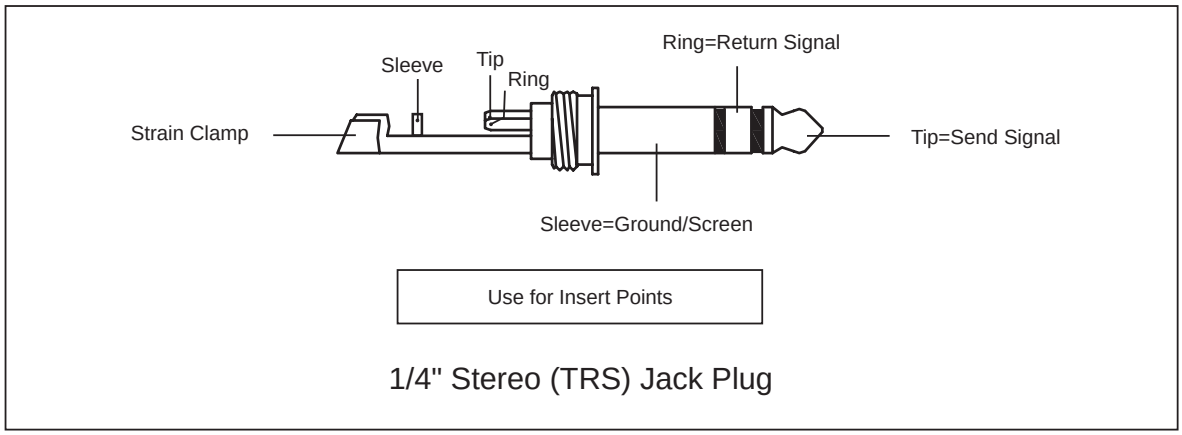
11). Now repeat the same sequence for all other input channels. The Main LED Meter could move up into the red section. In this case you can adjust the overall output level through the MAIN MIX control.

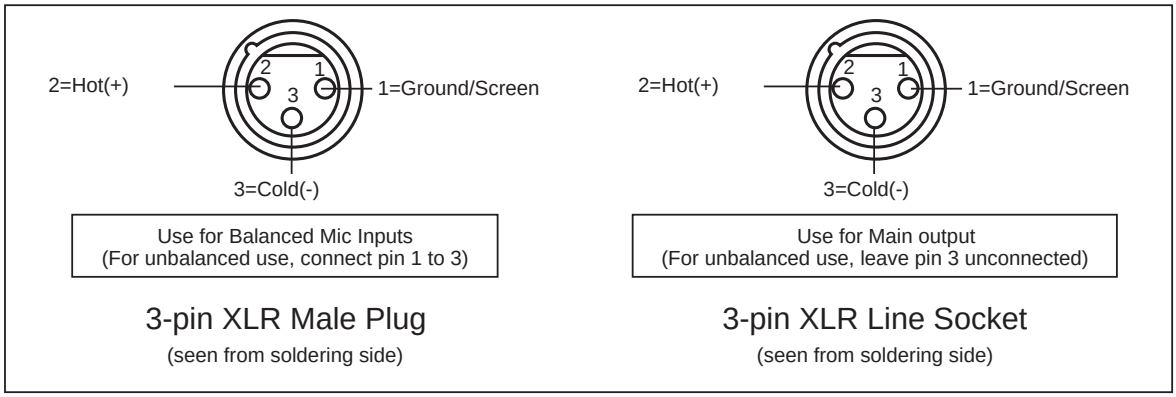
12). For GHIBLI 16FX, you can select desired DSP sound effects via PRESET and FX & REVERB LEVEL controls.

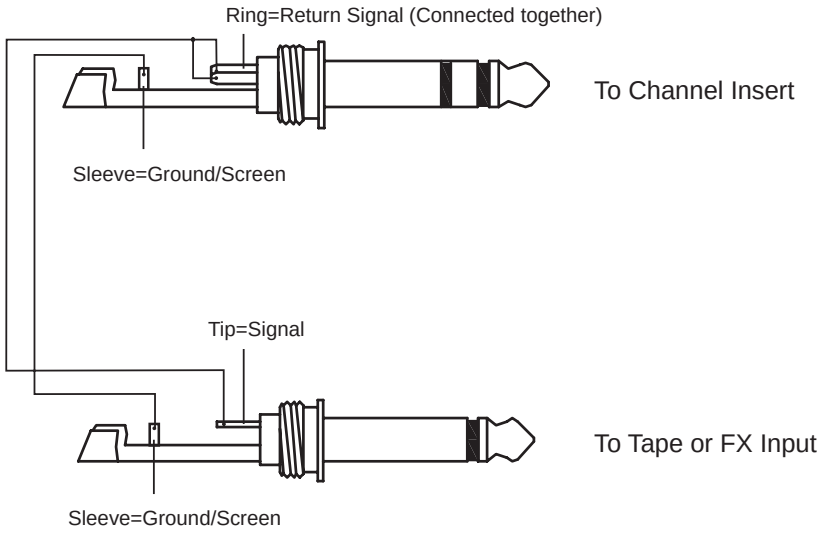
5.1 SOME FINAL TIPS ON WIRING CONFIGURATION

You can connect unbalanced equipment to balanced inputs and outputs. Simply follow these schemes.



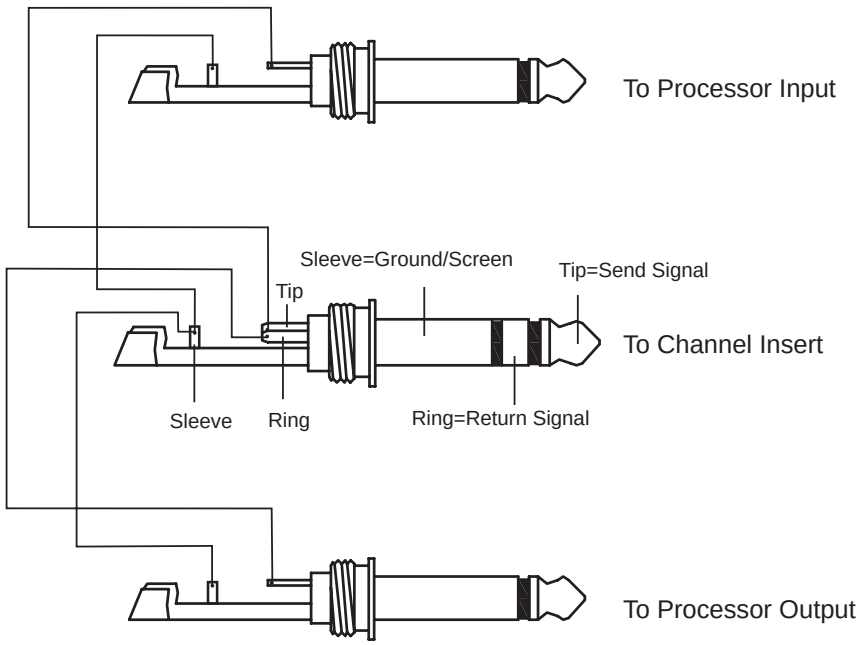






'Tapped' Connection Direct Output Lead

(Enables the Insert to be used as a Direct Output
while maintaining the channel signal flow)



Y-Stereo lead for insert Connection

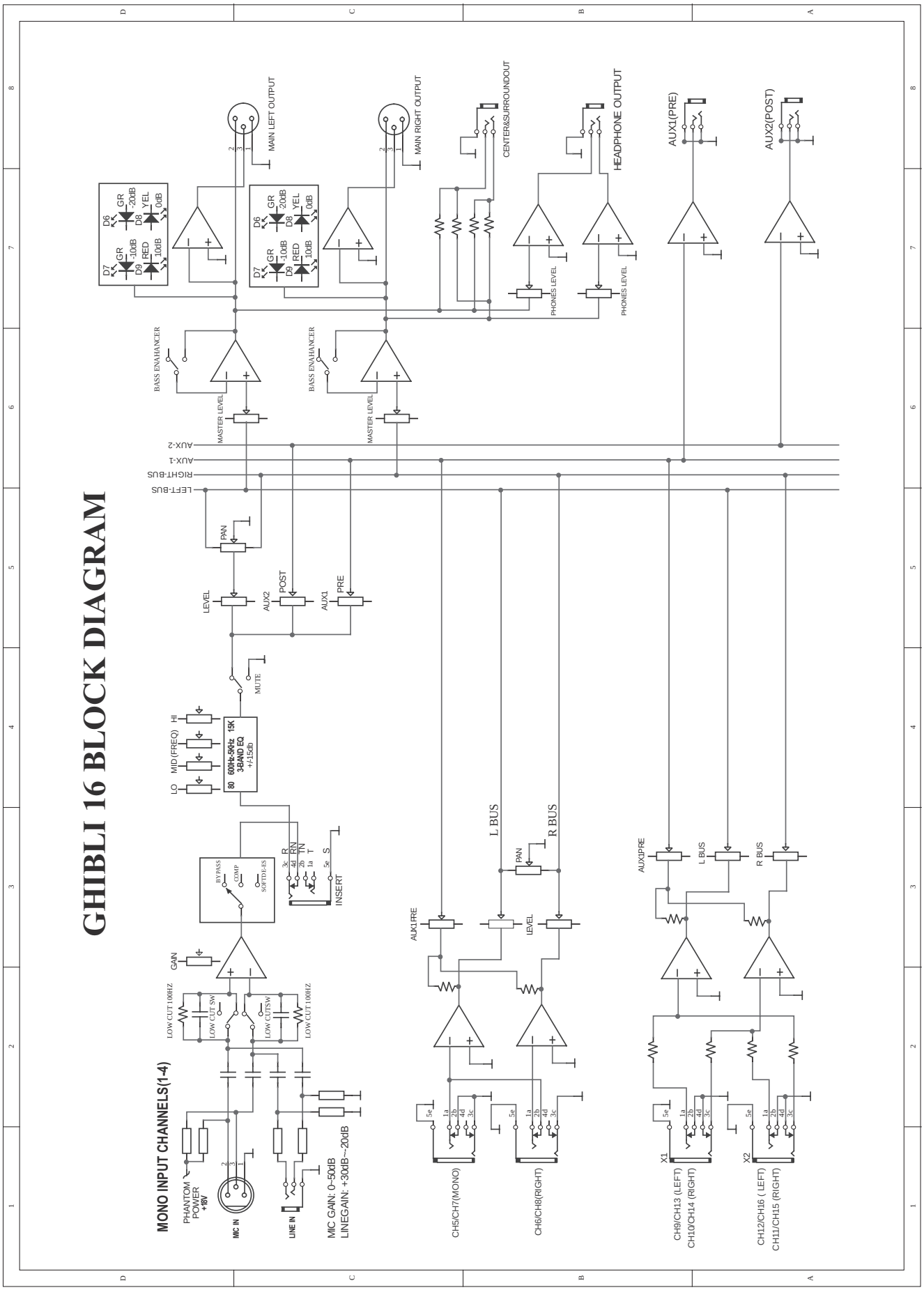
(To be used when the processor does not employ a
single jack connection for the In/Out Connections)

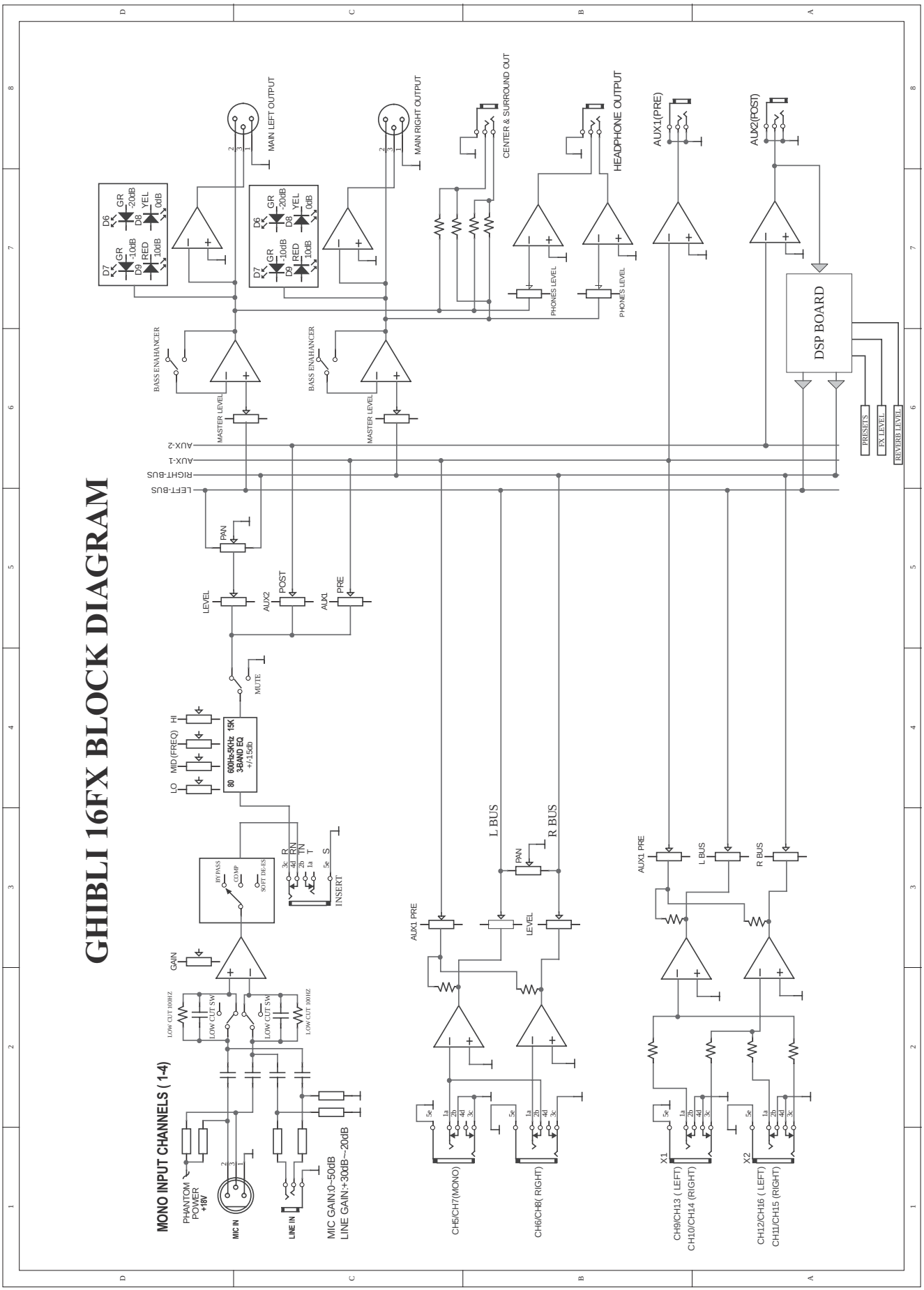
6. PRESET LIST FOR GHIBLI 16FX

Position	Name	Eff.1 Variat (REVERB)	Eff.2 Variat (FX)
1	Vibraflange	Spring Rev.	Waves
2	Funky	Spring Rev.	Funky style
3	Rockabilly	Tape Rev.	Slow & Soft Flanger
4	Bigstage	Hall Rev.	Solo Flanging
5	Vibrato4	Base Rev.	Vibrato modul. Speed 4
6	Vibrato3	Base Rev.	Vibrato modul. Speed 3
7	Vibrato2	Base Rev.	Vibrato modul. Speed 2
8	Vibrato1	Base Rev.	Vibrato modul. Speed 1
9	Flanger4	Base Rev.	Flanger modul. Speed 3 + mod. Depth + Feedbk
10	Flanger3	Base Rev.	Flanger modul. Speed 4 + mod. Depth + Feedbk
11	Flanger2	Base Rev.	Flanger modul. Speed 2
12	Flanger1	Base Rev.	Flanger modul. Speed 1
13	Chorus4	Base Rev.	Chorus modul. Speed 4
14	Chorus3	Base Rev.	Chorus modul. Speed 3
15	Chorus2	Base Rev.	Chorus modul. Speed 2 + mod. Depth
16	Chorus1	Base Rev.	Chorus modul. Speed 1

7. SYSTEM BLOCK DIAGRAMS

GHIBLI 16




GHIBLI 16FX BLOCK DIAGRAM
MONO INPUT CHANNELS (1-4)
PHANTOM POWER +16V
MIC IN
LINE IN
MIC GAIN:0~50dB
LINE GAIN:+30dB~-20dB
LOW CUT 100HZ
LOW CUT SW
GAIN
BY PASS
COMP
SOFT DIS
INSERT
LO
MID (FREQ)
HI
80 60Hz-5KHz 15K
3BAND EQ
+/-15db
MUTE
LEVEL
AUX2 POST
AUX1 PRE
PAN
LEFT-BUS
RIGHT-BUS
AUX-1
AUX-2
MASTER LEVEL
BASS ENAHANCER
MAIN LEFT OUTPUT
MAIN RIGHT OUTPUT
CENTER & SURROUND OUT
HEADPHONE OUTPUT
PHONES LEVEL
AUX1(PRE)
AUX2(POST)
DSP BOARD
PRESETS
FX LEVEL
REVERB LEVEL
L BUS
R BUS
CH5/CH7(MONO)
CH6/CH8(RIGHT)
CH9/CH13 (LEFT)
CH10/CH14 (RIGHT)
CH12/CH16 (LEFT)
CH11/CH15 (RIGHT)
X1
X2

8. TECHNICAL SPECIFICATION

Mono input channels	Microphone input	electronically balanced
	Bandwidth	15Hz to 20kHz, +/3dB
	Distortion (THD & N)	0.007% at +4dBu, 1kHz, Bandwidth 20KHz
	Gain range	0dB to 50dB (MIC)
	SNR (Signal to Noise Ratio)	
	Line input	unbalanced
	Bandwidth	15Hz to 60kHz, +/3dB
	Distortion (THD & N)	0.007% at +4dBu, 1kHz, Bandwidth 60KHz
	Line level range	-20dBu to +30dBu
Stereo input channels	Max input level	+10dBu
	Line input	unbalanced
	Bandwidth	10Hz to 55kHz, +/3dB
	Distortion (THD & N)	0.007% at +4dBu, 1kHz, Bandwidth 80KHz
Equalization	Hi shelving	+/ – 15dB @12kHz
	Mid bell	+/ – 15dB @600~5kHz
	Low shelving	+/ – 15dB @80Hz
Main Mix Section	Max output	+26dBu balanced
	AUX Sends max out	+22dBu unbalanced
	Phones Out	+22dBu unbalanced
	Center, Surround output	+22dBu unbalanced
	Signal-to-Noise Ratio	112dB, all channels at Unity Gain
Power Supply (AC/AC Adapter)	Main voltage	USA/Canada ~115VAC, 60Hz; Europe ~230VAC, 50Hz; U.K./Australia ~240VAC, 50Hz Japan ~100VAC, 60Hz
Physical	Dimension (W×D×H)	270mm×198mm×43mm
	Net weight	1.73Kg
	Shipping weight	2.45Kg

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